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(11) Publication number : **0 446 181 A3**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **91810153.6**

(51) Int. Cl.⁵ : **H02K 24/00**

(22) Date of filing : **07.03.91**

(30) Priority : **09.03.90 US 491187**

(43) Date of publication of application :
11.09.91 Bulletin 91/37

(84) Designated Contracting States :
CH DE FR GB IT LI SE

(88) Date of deferred publication of search report :
11.12.91 Bulletin 91/50

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(54) **Resolver having planar windings.**

(57) A printed circuit resolver includes a stator assembly (36) comprising a first planar, multi-turn stator winding (50,52) and a second planar multi-turn stator winding (58,60). A rotor assembly (38) is disposed adjacent to the stator assembly and is rotatable with respect to the stator assembly. A voltage is induced in each of the stator windings with each voltage varying according to a trigonometric function of the angular position of the rotor winding with respect to the stator windings. Each resolver winding is planar and comprises at least two planar multi-turn coils formed on a disc. Each coil comprises N turns and 2M sectors. In each sector, the radial and circumferential position of each point of a given turn is defined along radial sector lines radiating from a center point of the disc. The position of each point of a given turn is defined by either an inner turn radius or an outer turn radius. The inner turn radius for any given turn is the distance from the center point of the disc to the most proximate point on that turn as measured along a given sector line. The outer turn radius for that turn is the distance from the center point of the disc to the most distant point on that turn as measured along the same sector line. The sum of all outer turn radii for a given sector line minus the sum of all inner turn radii for the given sector line defines a value ; a set of all the values for all sector lines of the coil approximates a sinusoidal function.

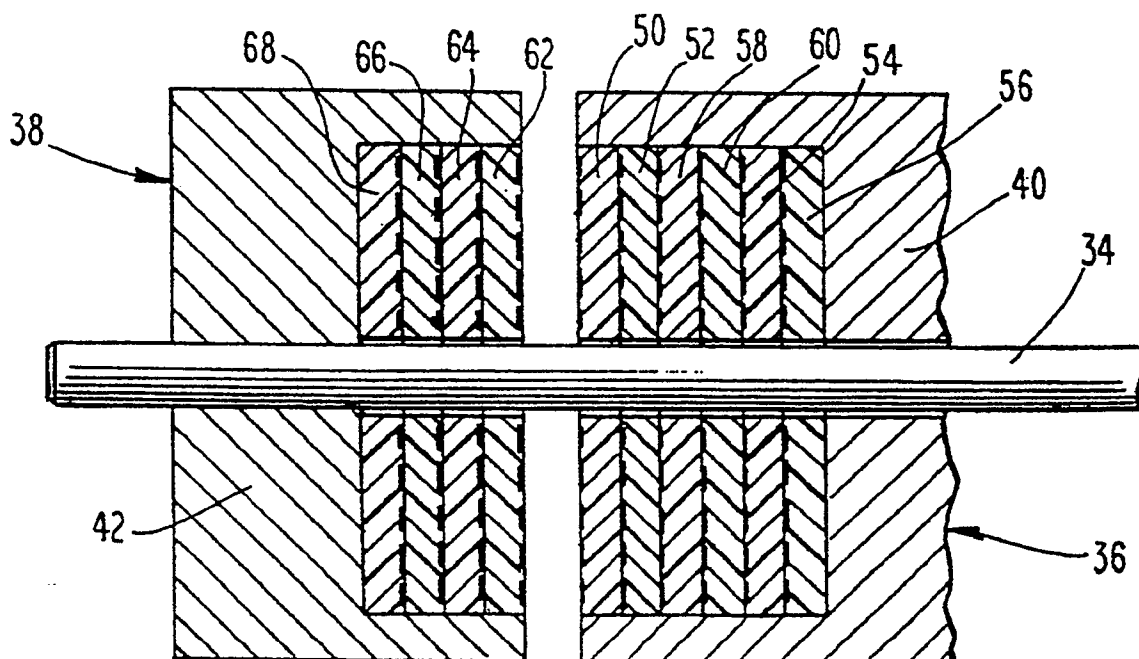


Fig. 3

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EUROPEAN SEARCH REPORT

Application Number

EP 91 81 0153

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	DE-A-2806660 (AGA AB) * page 8, line 15 - page 11, line 17 * * page 13, line 7 - page 15, line 26; figures 1a/b, 4, 5a/d *	1, 20, 31, 39	H02K24/00
Y	PATENT ABSTRACTS OF JAPAN vol. 8, no. 192 (P-298)(1629) 04 September 1984, & JP-A-59 079808 (OKUMA TEKKOSHO K.K.) 09 May 1984, * the whole document *	1, 20, 31, 39	
A	DD-A-133743 (B. KIEL ET AL.) * claims 1, 2; figure 1 *	1	
A	SOVIET INVENTIONS ILLUSTRATED, DERWENT PUBLICATIONS LTD., SECTION ELECTRICAL, Week E03, Abstract No. A 5993, V 06, 03.03.1982 & SU-A-817894 (SHEFRIN YAA) 31.03.1981	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			H02K24/00
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 25 SEPTEMBER 1991	Examiner GESSNER E.A.F.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone V : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			